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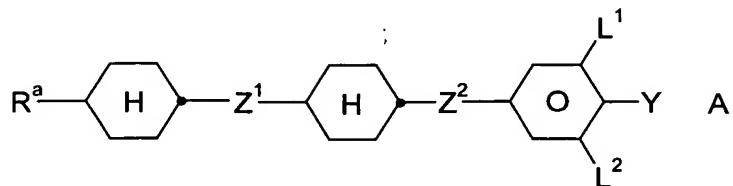
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Patent Claims

1. A liquid-crystalline medium comprising one or more compounds of formula A

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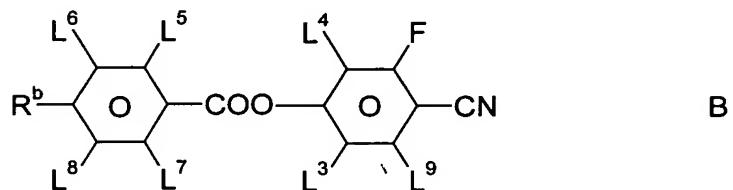
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and at least one compound of formula B

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in which

R^a and R^b are each, independently of one another, H or an alkyl radical having 1 to 12 carbon atoms which is unsubstituted or monosubstituted by CN or CF_3 , or at least monosubstituted by halogen, in which one or more CH_2 groups are optionally, independently of one another, replaced by $-O-$, $-S-$, $\text{--} \bigcirc \text{--}$, $-CH=CH-$, $-C\equiv C-$, $-CO-$, $-CO-O-$, $-O-CO-$ or $-O-CO-O-$ in such a way that O atoms are not linked directly to one another,

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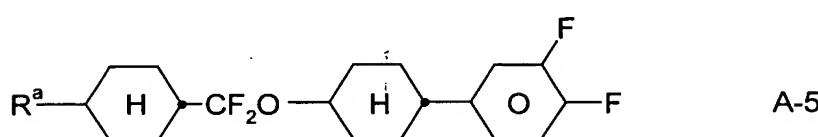
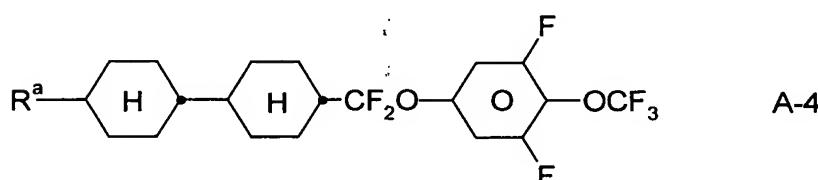
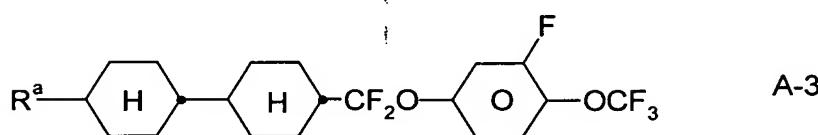
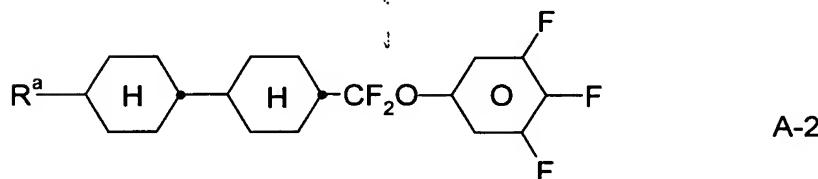
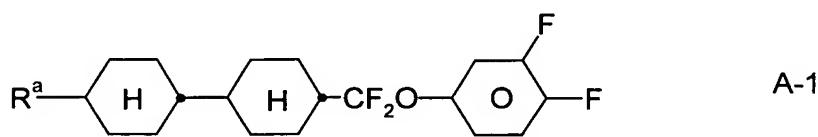
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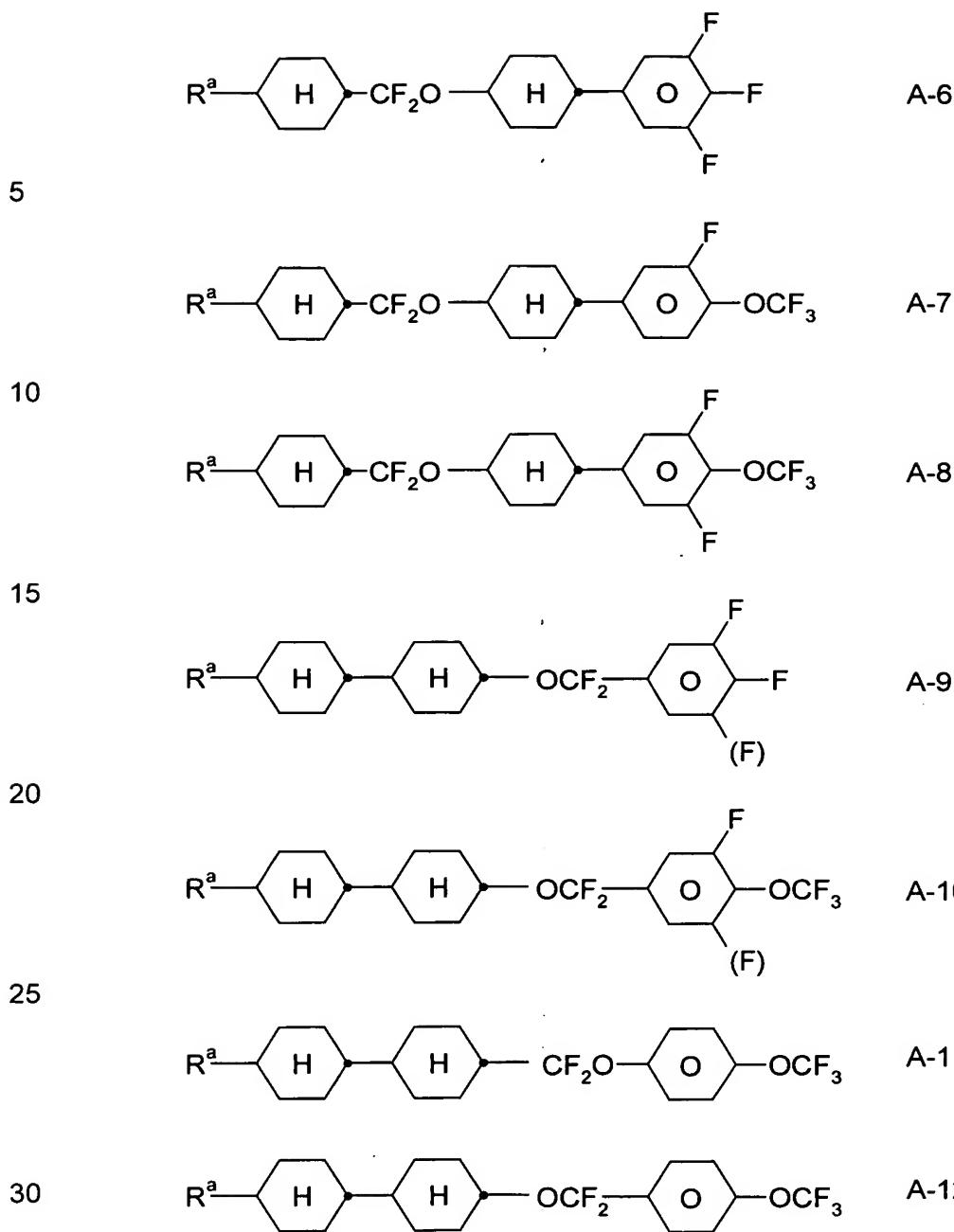
Z^1 and Z^2 are each, independently of one another, $-(CH_2)_4-$, $-CF_2O-$, $-COO-$, $-OCF_2-$, $-OCH_2-$, $-CH_2O-$, $-CH_2-$, $-(CH_2)_3-$ or a single bond, wherein at least one of Z^1 and Z^2 is $-OCF_2-$ or $-CF_2O-$,

5 L^1 to L^9 are each, independently of one another, H or F, and

Y is F, Cl, SF₅, NCS, OCN, CN, SCN, or a monohalogenated or polyhalogenated alkyl, alkoxy, alkenyl or alkenyloxy radical, each having up to 5 carbon atoms.

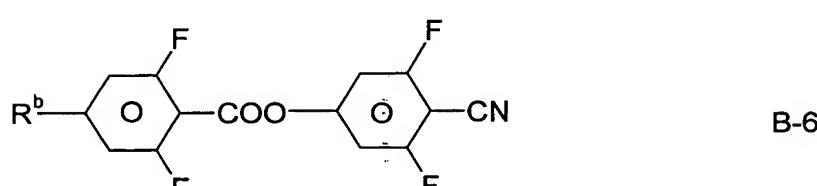
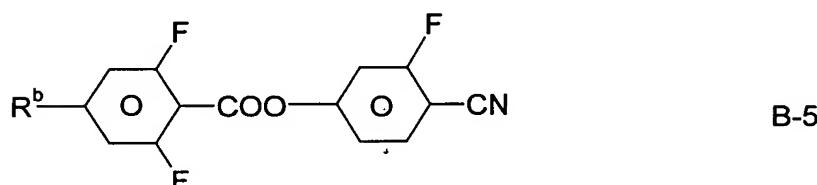
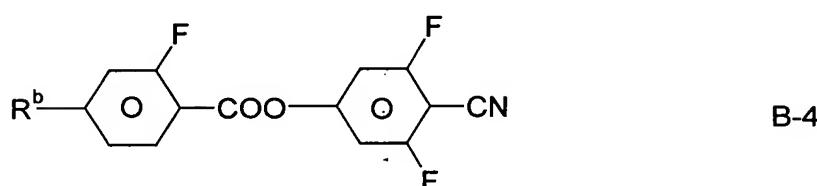
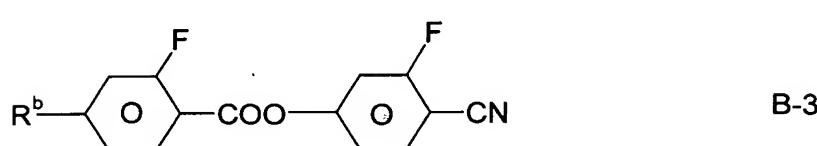
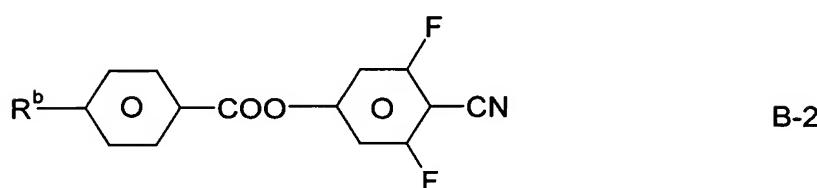
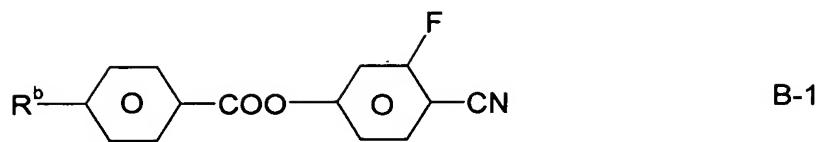
10 2. A liquid-crystalline medium according to Claim 1, comprising a compound of formulae A-1 to A-12





in which R^a is as defined in Claim 1.

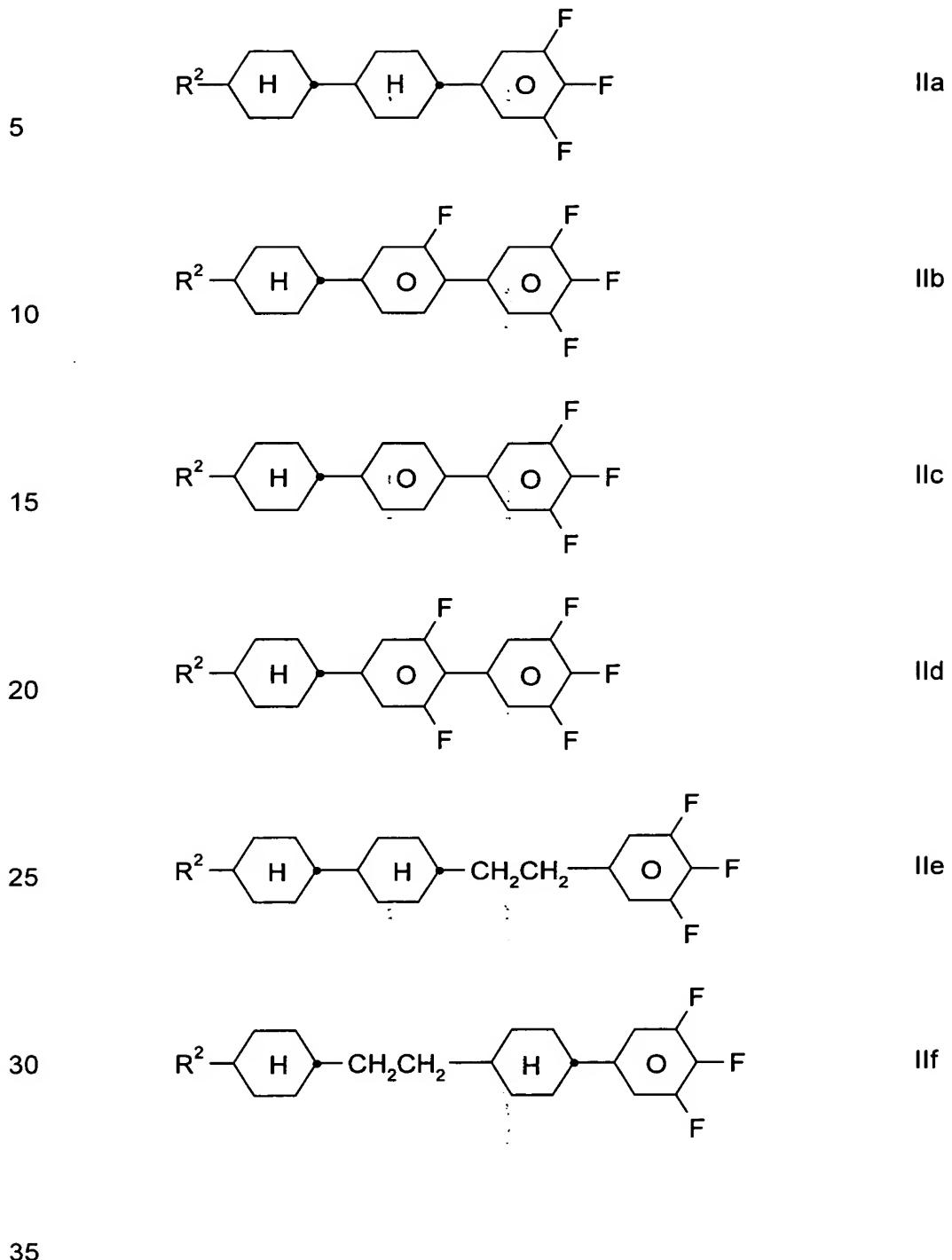
35 3. A liquid-crystalline medium according to Claim 1, comprising a compound of formulae B-1 to B-6

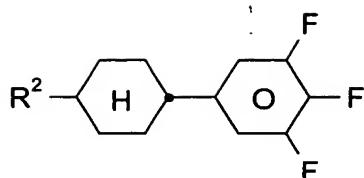


in which

R^b is as defined in Claim 1.

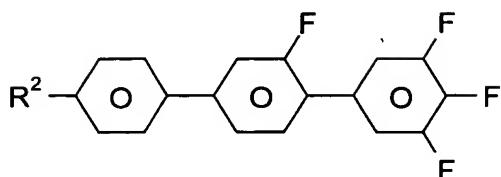
35 4. A liquid-crystalline medium according to Claim 1, further comprising
a compound of formulae IIa to IIj





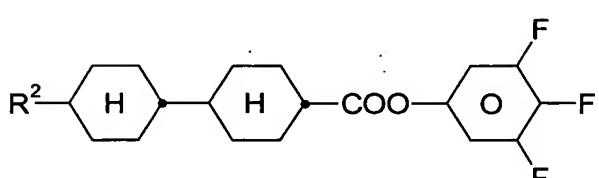
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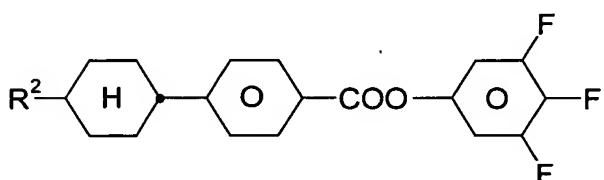
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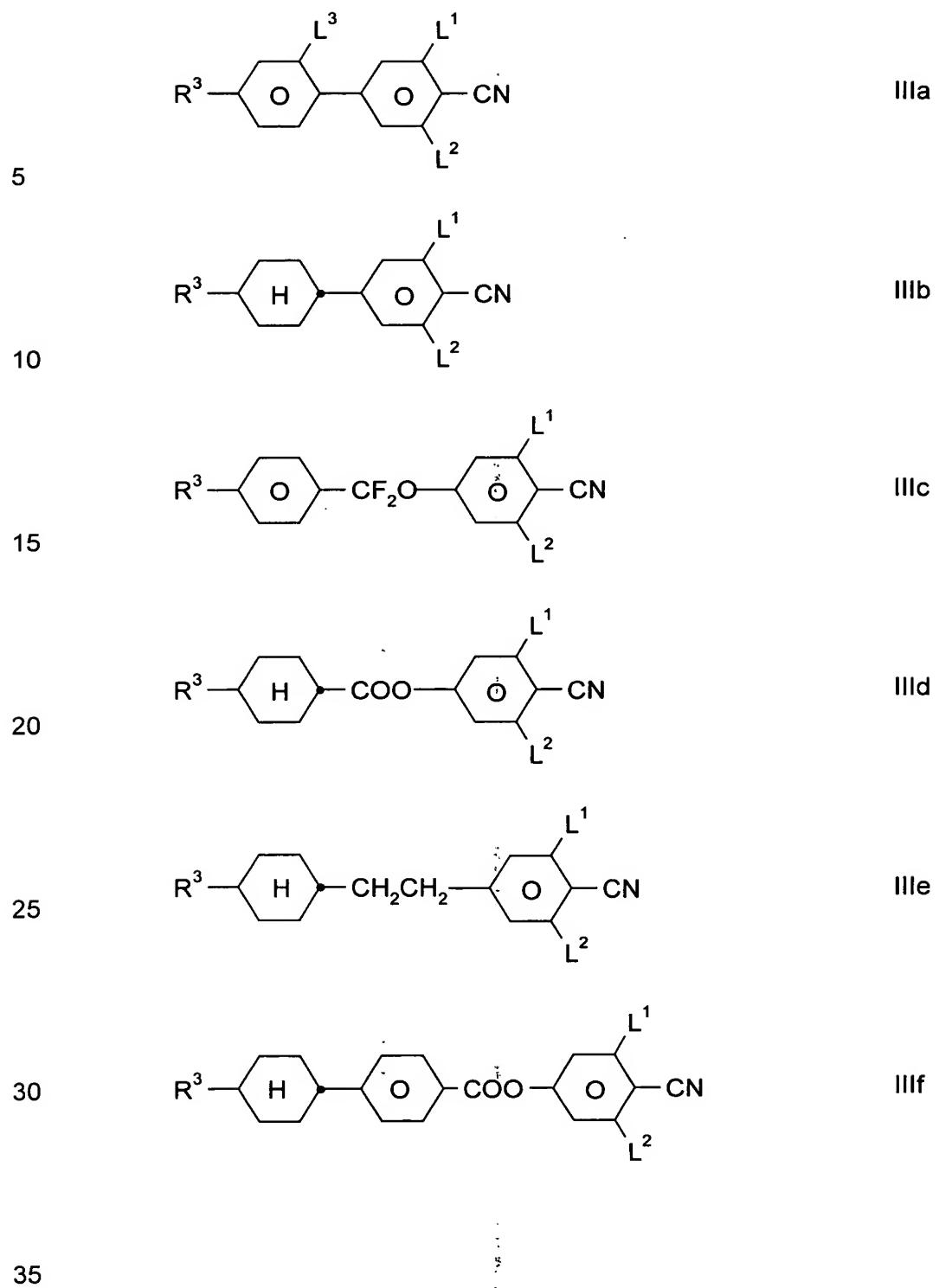
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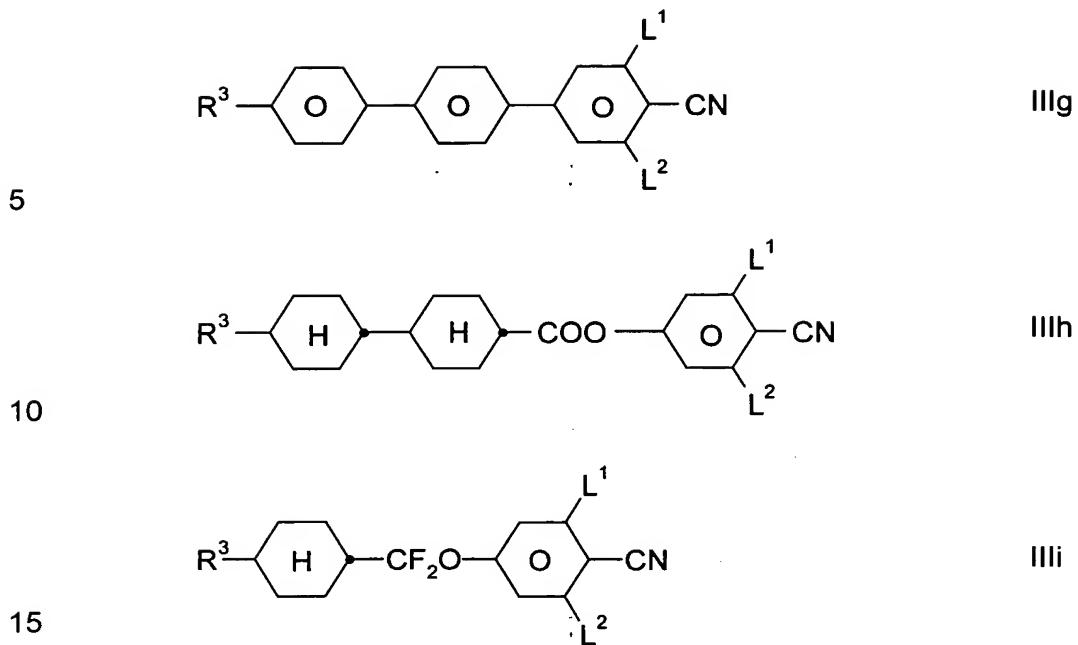
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in which

5. A liquid-crystalline medium according to Claim 1, further comprising a cyano compound of formulae IIIa to IIIi

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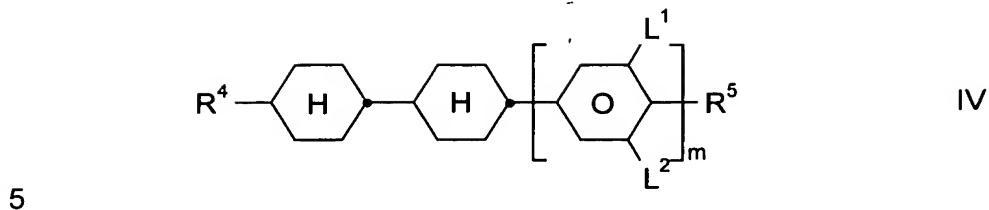
in which

20 R^3 is an alkyl radical having 1 to 12 carbon atoms which is unsubstituted or monosubstituted by CN or CF_3 , or at least monosubstituted by halogen, in which one or more CH_2 groups are optionally, independently of one another, are replaced by $-O-$, $-S-$,  , $-CH=CH-$, $-C\equiv C-$, $-CO-$,
25 $-CO-O-$, $-O-CO-$ or $-O-CO-O-$ in such a way that O atoms are not linked directly to one another, and

L^1, L^2
and L^3 are each, independently of one another, H or F.

6. A liquid-crystalline medium according to Claim 1, further comprising a compound of formula IV

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in which

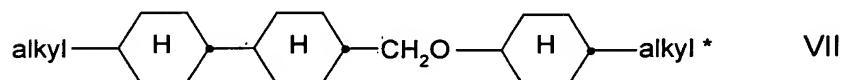
10 m is 0 or 1,

10 R4 is an alkenyl group having 2 to 7 carbon atoms,

15 R5 is defined as R^a in claim 1, or, when m is 1, is alternatively F, Cl, CF₃ or OCF₃, and

15 L¹ and L² are each, independently of one another, H or F.

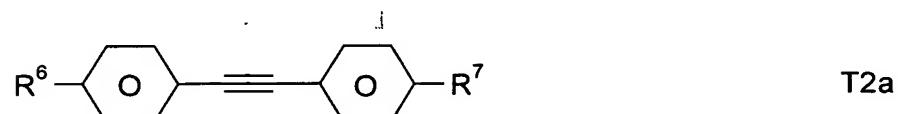
20 7. A liquid-crystalline medium according to Claim 1, further comprising a compound of formula VII

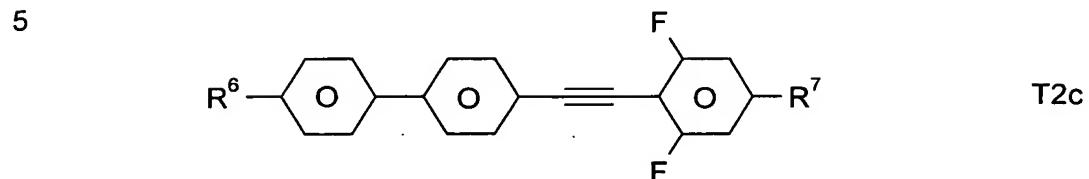
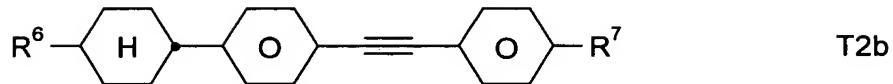


25 in which

alkyl and alkyl* are each, independently of one another, an alkyl group having 1 to 7 carbon atoms.

30 8. A liquid-crystalline medium according to Claim 1, further comprising a tolan compound of formula T2a, T2b or T2c





15

in which

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R^6 and R^7 are each, independently of one another, an alkyl radical having 1 to 12 carbon atoms which is unsubstituted or monosubstituted by CN or CF_3 , or at least monosubstituted by halogen, in which one or more CH_2 groups are optionally, independently of one another, replaced by -O-, -S-, , - $CH=CH$ -, - $C\equiv C$ -, -CO-, -CO-O-, -O-CO- or -O-CO-O- in such a way that O atoms are not linked directly to one another.

9. A liquid-crystalline medium according to Claim 1, wherein the medium comprises 5-30% by weight of one or more compounds of formula A.

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10. A liquid-crystalline medium according to Claim 1, wherein the medium comprises 5-30% by weight of one or more compounds of formula B.

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11. A liquid-crystalline medium according to Claim 1, wherein the medium comprises more than 20% of compounds having a dielectric anisotropy of $\Delta\epsilon \geq +12$.

12. An electro-optical device comprising a liquid-crystalline medium according to Claim 1.

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13. An electro-optical liquid-crystal display containing a liquid-crystalline medium according to Claim 1.

14. A TN or STN liquid-crystal display comprising

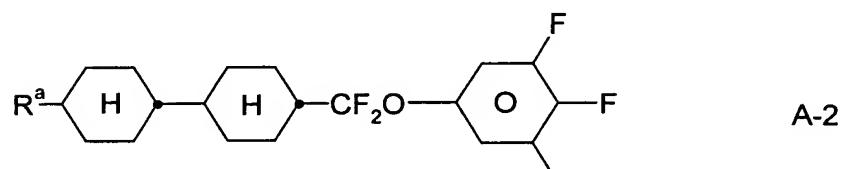
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 - two outer plates, which, together with a frame, form a cell,
 - a nematic liquid-crystal mixture of positive dielectric anisotropy located in the cell,
 - electrode layers with alignment layers on the insides of the outer plates,
- 10
 - a tilt angle between the longitudinal axis of the molecules at the surface of the outer plates and the outer plates of from 0 degree to 30 degrees, and
 - a twist angle of the liquid-crystal mixture in the cell from alignment layer to alignment layer with a value of between 22.5° and 600°, and
 - a nematic liquid-crystal mixture comprising
- 15
 - a) 15 – 75% by weight of a liquid-crystalline component A consisting of one or more compounds having a dielectric anisotropy of greater than +1.5;
 - b) 25 – 85% by weight of a liquid-crystalline component B consisting of one or more compounds having a dielectric anisotropy of between -1.5 and +1.5;
- 20
 - c) 0 – 20% by weight of a liquid-crystalline component D consisting of one or more compounds having a dielectric anisotropy of below -1.5, and
 - d) optionally, an optically active component C in such an amount that the ratio between the layer thickness and the natural pitch of the chiral nematic liquid-crystal mixture is from about 0.2 to 1.3,
- 25
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wherein component A is a liquid-crystalline medium according to claim 1.

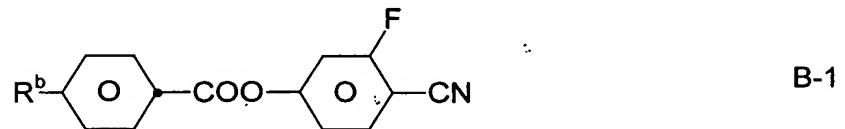
15. A liquid-crystalline method according to claim 2, comprising a compound of formula A-2 or A-6.

5 16. A liquid-crystalline method according to claim 3, comprising a compound of formula B-1, B-2 or B-4.

10 17. A liquid-crystalline method according to claim 1, comprising a compound of formula A-2



15 and a compound of formula B-1



25 wherein in R^a and R^b are as defined in claim 1.

18. A liquid-crystalline method according to claim 1, wherein the medium contains three homologous compounds of formula A.

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